

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/NL2004/000724

International filing date (day/month/year)
15.10.2004

Priority date (day/month/year)
27.10.2003

International Patent Classification (IPC) or both national classification and IPC
F16B5/01, B29C65/08

Applicant
DE GROOT, Martin Theodoor

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl
Fax: +31 70 340 - 3016

Authorized Officer

Telephone No. +31 70 340-



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/NL2004/000724

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-11
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V.

1. Reference is made to the following documents:

D1: US-A-5536344
D2: JP-A-54101878
D3: DE-U-20105550

2. The following is stated under reference to Item VIII of this written opinion. It is to be noted, that those features, which cause non-compliance with Article 6 PCT, cannot be employed for unambiguously distinguishing over prior art for assessing novelty in the sense of Article 33(2) PCT or inventive step in the sense of Article 33(3) PCT.

Document D1, cf. claim 7 in conjunction with column 3, lines 5 - 11, discloses a method for arranging a thermoplastic insert unit (2) comprising a body (8) in a thermoplastic sandwich product (4) having at least one planar or substantially planar section (14), which sandwich product (4) comprises a layer of a core material (18) which does not have its theoretical maximum density and at least one covering layer formed from a fibre reinforced thermoplastic (cf. col. 3, lines 6, 7), the method comprising the steps of
forming a hole in the covering layer (14) of the thermoplastic sandwich product (4), with core material (18) being removed;
placing the plastic insert unit (2) in the hole;
positioning the insert unit in an apparatus;
applying energy and pressure, so that heat is generated between the plastic insert unit (2) and the covering layer (14) of the thermoplastic sandwich product; and
fixing the insert unit through cooling after sufficient heat has been generated to allow fusion (cf. figure 6) between the plastic insert unit and the covering layer of the thermoplastic sandwich product.

The subject-matter of claim 1 differs therefrom in that the core material is thermoplastic, the positioning is between an ultrasonic horn and an anvil and the

energy is applied ultrasonically.

Therefore the subject-matter of claim 1 for as far as can be understood is novel and claim 1 meets the requirements of Article 33(2) PCT.

Since the weight is not a feature of claim 1 and commercial success as such cannot be indicative to the presence of an inventive step, cf. PCT-Guideline, 13.18, the objective problem underlying claim 1 appears to lie in the avoiding of rotation, cf. page 1, lines 29 - 34. ➡

However the combination of features consisting of a thermoplastic core material (7, 21), positioning an insert (6, 13) between an ultrasonic horn (3) and an anvil (8), whereby energy is applied ultrasonically, is as such known from document D2, cf. the Derwent abstract in conjunction with figures 1 - 3. Since both thermoplastic cored sandwich panels and ultrasonic welding of thermoplastics are generally known and commonly practised, the teaching of document D2 provides the skilled man a straightforward possibility of solving the aforementioned apparent objective underlying problem, which could be implemented in the method known from document D1 without the exercise of inventive skill.

Therefore the subject-matter of claim 1 for as far as can be understood is deprived of inventive step and claim 1 does not meet the requirements of Article 33(3) PCT. Consequently the present application does not meet the requirements of Article 33(1) PCT.

3. Due to the non-compliance with Article 6 PCT as set out under Item VIII herein below, whereby independent claim 1 does not meet the requirements of Article 33(3)PCT, the international searching authority can in this Written Opinion neither in reason identify nor select one or more additional features as contained by the dependent claims 2 - 11 as supporting the presence of an inventive step. For their disclosure in the prior art documents as such reference is made to the international search report.

Consequently claims 2 - 11 formally do not meet the requirements of Article 33(3) PCT.

4. Claims 1 - 11 meet the requirements of Article 33(4) PCT.

Re Item VII.

1. The independent claim is not presented in the two-part form in accordance with Rule 6.3(b) PCT, whereby the features known in combination from the closest prior art document D1 placed in its preamble (Rule 6.3(b)(i) PCT) and the remaining features in its characterising part (Rule 6.3(b)(ii) PCT).
2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in prior art documents D2 and D3 is not mentioned in the description, nor are these documents identified therein.

Re Item VIII.

In respect of the requirements of Article 6 PCT the following is observed.

1. The expressions "virtual planar section", cf. page 11, line 4 and "is not completely solid" are vague and leave the reader in doubt as to the meaning of the technical features to which they refer, thereby rendering the definition of the subject-matter of said claim 1 unclear, contrary to the requirements of Article 6 PCT. Taking the priority

wording into consideration for the purpose of evaluating the claims in respect of Article 33(1) PCT these expressions have respectively been interpreted as "substantially planar section" and "does not have its theoretical maximum density".

2. The method defined by independent claim 1 is comprised of the feature "with core material being removed". This method is further specified thru claim 7 as being comprised of the feature "in which no core material is removed". This further specification causes a serious inconsistency in the matter for which protection is sought, see also PCT-Guideline 5.15 in conjunction with Rule 6(4) PCT.
3. The expression "the dimensions of the hole are substantially equal to the dimensions of the body of the insert unit", cf. claim 4, is unclear, since it lacks delimitation over exact dimensions, cf. PCT-Guideline 5.38.
4. The additional features of claim 5 appear to define the subject-matter of claim 5 in terms of the result to be achieved, without mentioning those method features which are necessary for achieving this result, cf. PCT Guideline, 5.35. Consequently claim 5 lacks clarity.
5. Since it cannot be stated whether the content of bracketed expressions is part of the subject-matter of a claim, claim 6 formally lacks clarity, cf. PCT-Guideline 5.11.